AMENDMENTS TO THE CLAIMS

1.-28. (Canceled)

29.   (New)   An area-designing apparatus having processing means for simulating a CDMA mobile communication system, the processing means comprising:

means for placing a plurality of communicating mobile stations corresponding to traffic distribution information on a map;

means for deciding, for each mobile station, a base station to which the mobile station is radio-linked;

means for calculating transmission power of a signal that each base station transmits to each of the mobile stations that are radio-linked thereto so that a ratio of reception power of a signal to reception power of interferences converges to a predetermined value, said reception power of a signal being that of a signal that each mobile station receives from the base station radio-linked thereto, said reception power of interferences being that of interferences that the same mobile station receives from the base station radio-linked thereto and from each of the other base stations, converges to a predetermined value;

means for successively selecting, while each base station is transmitting the calculated transmission power signal, each of a plurality of evaluation positions on the map which are independent from positions at which the mobile stations are placed on the map; and,

means for calculating reception power of a signal received by an additional evaluation mobile station placed on the map at each selected evaluation

3

position, the signal being received from the base station that the additional evaluation mobile station is radio-linked thereto, and for calculating reception power of interferences received by the additional evaluation mobile station from all of the base stations including the base station to which the additional evaluation mobile station is radio-linked;

wherein communication quality at each evaluation position is evaluated corresponding to the calculated reception signal power and the calculated reception power of the interferences.

30.   (New)   The area-designing apparatus as set forth in claim 29,

wherein a random deviation amount is added to a propagation loss of a signal transmitted between the evaluation mobile station, placed at each evaluation position, and each base station,

wherein, corresponding to the resultant propagation loss, the reception power of the signal and the reception power of the interferences are calculated so as to evaluate the communication quality at each evaluation position, and

wherein the evaluation of the communication quality is repeated, and the ratio that represents the number of evaluation results that do not satisfy a predetermined level is obtained.

31.   (New)   The area-designing apparatus as set forth in claim 29, wherein the communication quality at each evaluation position in an area that contains some of the plurality of evaluation positions is evaluated, and

wherein a ratio that represents the number of evaluation results at the evaluation positions in the area that do not satisfy a predetermined level is obtained.

32.   (New)   The area-designing apparatus as set forth in claim 29,

wherein the evaluation positions are decided so that some of the

plurality of evaluation positions are formed in a regular polygon shape.

33.   (New)   The area-designing apparatus as set forth in claim 29,

further comprising:

means for displaying, with visual information, the communication

quality at each evaluation position.

34.   (New)   The area-designing apparatus as set forth in claim 30,

further comprising:

means for displaying, with visual information, the ratio that represents

evaluation results that do not satisfy a predetermined level.

35.   (New)   The area-designing apparatus as set forth in claim 29,

further comprising:

means for inputting the traffic distribution information;

means for storing the input traffic distribution information; and,

means for outputting visual information from the apparatus.

36.   (New)   An area-designing apparatus having processing means for

simulating a CDMA mobile communication system, the processing means

comprising:

means for placing a plurality of communicating mobile stations so as to

correspond to traffic distribution information on a map, the apparatus comprising:

means for deciding, for each mobile station, a base station to which the

mobile station is radio-linked;

5

means for calculating transmission power of a signal that each mobile station transmits to the base station that is radio-linked thereto so that a ratio of a reception power of a signal to reception power of interferences converges to a predetermined value, said reception power of a signal being that of a signal that each base station receives from each mobile station radio-linked thereto. said reception power of interferences being that of interferences that the same base station receives from the other mobile stations;

means for successively selecting, while each mobile station is transmitting the calculated transmission power signal, each of a plurality of evaluation positions on the map which are independent from positions at which the mobile stations are placed on the map; and,

means for calculating reception power of a signal received by the base station from an additional evaluation mobile station placed on the map at each selected evaluation position, the signal being received from the additional evaluation mobile station that the base station is radio-linked thereto, and for calculating reception power of interferences that the base station receives from mobile stations other than the additional evaluation mobile station;

wherein communication quality at each evaluation position is evaluated corresponding to the calculated reception signal power and the calculated reception power of the interferences.

37.   (New)   The area-designing apparatus as set forth in claim 36,

wherein a random deviation amount is added to a propagation loss of a signal transmitted between the evaluation mobile station, placed at each evaluation position, and each base station,

6

wherein, corresponding to the resultant propagation loss, the reception power of the signal and the reception power of the interferences are calculated so as to evaluate the communication quality at each evaluation position, and

wherein the evaluation of the communication quality is repeated, and the ratio that represents the number of evaluation results that do not satisfy a predetermined level is obtained.

38.   (New)   The area-designing apparatus as set forth in claim 36, wherein the communication quality at each evaluation position in an area that contains some of the plurality of evaluation positions is evaluated, and

wherein a ratio that represents the number of evaluation results at the evaluation positions in the area that do not satisfy a predetermined level is obtained.

39.   (New)   The area -designing apparatus as set forth in claim 36,

wherein the evaluation positions are decided so that some of the plurality of evaluation positions are formed in a regular polygon shape.

40.   (New)   The area-designing apparatus as set forth in claim 36, further comprising:

means for displaying, with visual information, the communication quality at each evaluation position.

41.   (New)   The area-designing apparatus as set forth in claim 37, further comprising:

means for displaying, with visual information, the ratio that represents evaluation results that do not satisfy a predetermined level.

7

42.   (New)   The area-designing apparatus as set forth in claim 36, further comprising:

means for inputting the traffic distribution information;

means for storing the input traffic distribution information; and,

means for outputting visual information from the apparatus.

43.   (New)   An area-designing method for simulating a CDMA mobile communication system, comprising steps of:

placing a plurality of communicating mobile stations on a map so as to correspond to traffic distribution information;

deciding, for each mobile station, a base station to which the mobile station is radio-linked;

calculating transmission power of a signal that each base station transmits to each of the mobile stations that are radio-linked thereto so that a ratio of reception power to reception power of interferences converges to a predetermined value, said reception power of a signal being that of a signal that each mobile station receives from the base station radio-linked thereto, said reception power of interferences being that of interferences that that the same mobile station receives from the base station radio-linked thereto and from each of the other base stations;

successively selecting, while each base station is transmitting the calculated transmission power signal, each of a plurality of evaluation positions on the map which are independent from positions at which the mobile stations have been placed on the map; and,

calculating a reception power of a signal received by an additional evaluation mobile station placed at each selected evaluation position, the signal being received from the base station that the additional evaluation mobile station is radio-linked thereto, and calculating reception power of interferences received by the additional evaluation mobile station from ail of the base stations including the base station to which the additional evaluation mobile station is radio-linked;

wherein communication quality at each evaluation position is evaluated corresponding to the calculated reception signal power and the calculated reception power of the interferences.

44.   (New)   The area-designing method as set forth in claim 43,

wherein a random deviation amount is added to a propagation loss

of a signal transmitted between the additional evaluation mobile station, placed at each evaluation position, and each base station,

wherein, corresponding to the resultant propagation loss, the

reception power of the signal and the reception power of the

interferences are calculated so as to evaluate the communication quality at each

evaluation position, and

wherein the evaluation of the communication quality is repeated, and the ratio that represents the number of evaluation results that do not satisfy a predetermined level is obtained.

45.   (New)   The area-designing method as set forth in claim 43,

wherein the communication quality at each evaluation position in an

area that contains some of the plurality of evaluation positions is evaluated, and

9

wherein a ratio that represents the number of evaluation results at the evaluation positions in the area that do not satisfy a predetermined level is obtained.

46.   (New)   The area -designing method as set forth in claim 43, wherein the evaluation positions are decided so that some of the plurality of evaluation positions are formed in a regular polygon shape.

47.   (New)   The area-designing method as set forth in claim 43, further comprising:

a step of displaying, with visual information, the communication quality at each evaluation position.

48.   (New)   The area-designing method as set forth in claim 44, further comprising:

a step of displaying, with visual information, the ratio that represents evaluation results that do not satisfy a predetermined level.

49.   (New)   The area-designing method as set forth in claim 43, further comprising steps of:

inputting the traffic distribution information;

storing the input traffic distribution information; and, outputting visual information on results from the method.

50.   (New)   An area-designing method for a CDMA simulating mobile communication system, comprising steps of:

placing a plurality of communicating mobile stations on a map so as to correspond to traffic distribution information;

deciding, for each mobile station, a base station to which the mobile station is radio-linked;

calculating transmission power of a signal that each mobile station transmits to the base station that is radio-linked thereto so that a ratio of reception power of a signal to reception power of interferences converges to predetermined value, said reception power of a signal being that of a signal that each base station receives from each mobile station radio-linked thereto, said reception power of interferences being that of interferences that the same base station receives from the other mobile stations;

successively selecting, while each mobile station is transmitting the calculated transmission power signal, each of a plurality of evaluation positions on a map which are independent from positions at which the mobile stations have been placed on the map; and,

calculating reception power of a signal received by the base station from an additional evaluation mobile station placed at each selected evaluation position, the signal being received from the additional evaluation mobile station that the base station is linked thereto, and calculating reception power of interferences that the base station receives from mobile stations other than the additional evaluation mobile station;

wherein communication quality at each evaluation position is evaluated corresponding to the calculated reception signal power and the calculated reception power of the interferences.

51.   (New)   The area-designing method as set forth in claim 50, wherein a random deviation amount is added to a propagation loss

11

of a signal transmitted between the additional evaluation mobile station, placed at each evaluation position, and each base station,

wherein, corresponding to the resultant propagation loss, the reception power of the signal and the reception power of the interferences are calculated so as to evaluate the communication quality at each evaluation position, and

wherein the evaluation of the communication quality is repeated, and the ratio that represents the number of evaluation results that do not satisfy a predetermined level is obtained.

52.   (New)   The area-designing method as set forth in claim 50, wherein the communication quality at each evaluation position in an area that contains some of the plurality of evaluation positions is evaluated, and

wherein a ratio that represents the number of evaluation results at the evaluation positions in the area that do not satisfy a predetermined level is obtained.

53.   (New)   The area-designing method as set forth in claim 50, wherein the evaluation positions are decided so that some of the plurality of evaluation positions are formed in a regular polygon shape.

54.   (New)   The area-designing method as set forth in claim 50, further comprising:

a step of displaying, with visual information, the communication quality at each evaluation position.

55.   (New)   The area-designing method as set forth in claim 51, further comprising:

a step of displaying, with visual information, the ratio that represents evaluation results that do not satisfy a predetermined level.

56.   (New)   The area-designing method as set forth in claim 50, further comprising steps of:

inputting the traffic distribution information;

storing the input traffic distribution information; and,

outputting visual information on results from the method.